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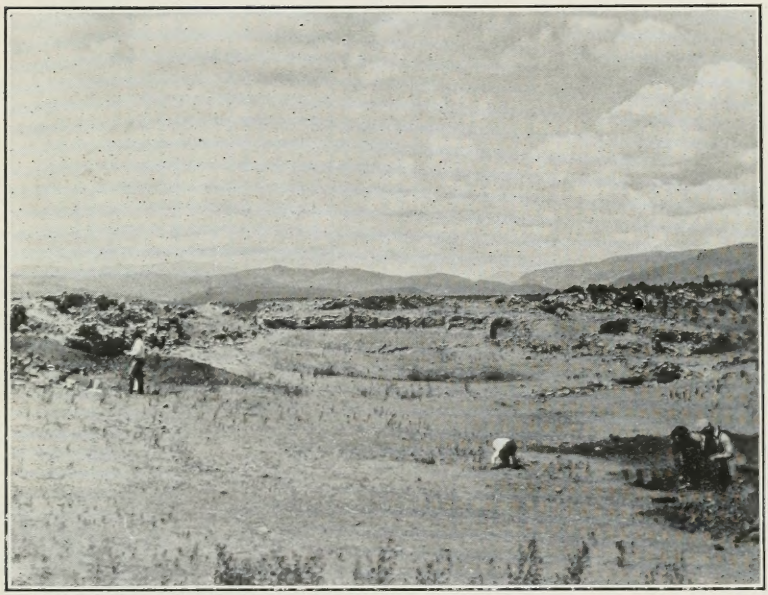
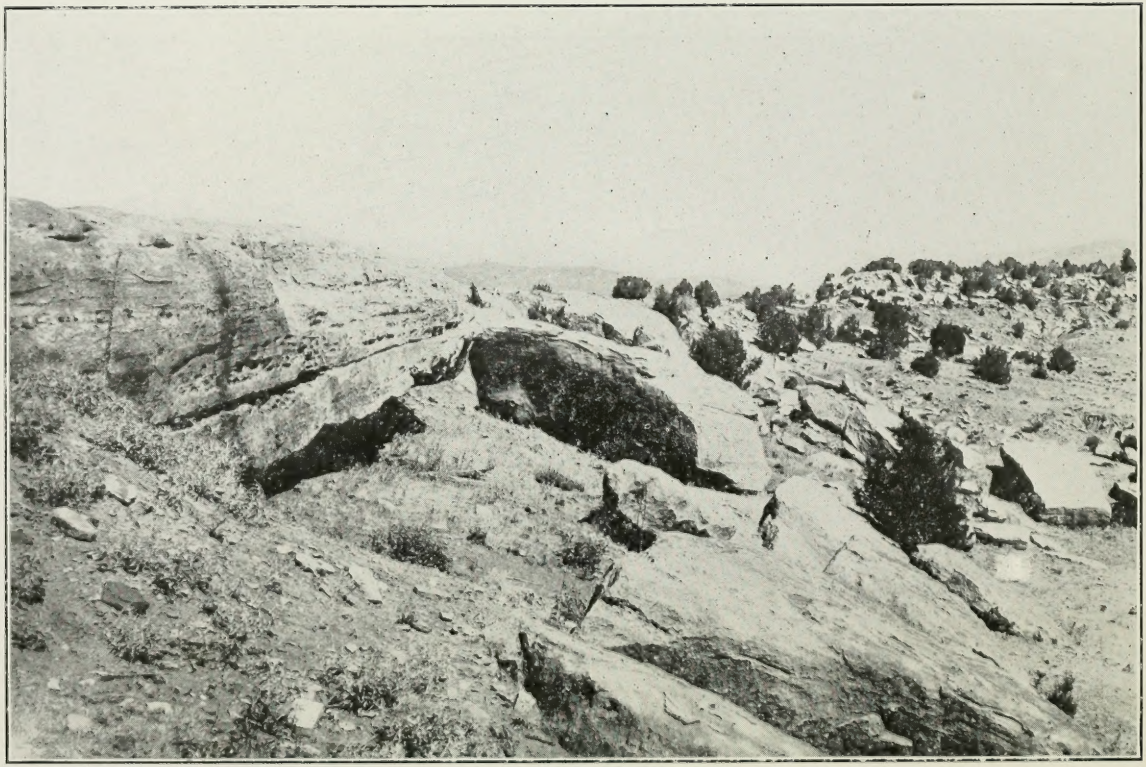
El Palacio

VOL. XX. JANUARY 1, 1926. No. 1.



THE PLAZA OF THE GREAT QUADRANGLE AT OPENING OF 1925 EXCAVATIONS



North End of Pecos Mesa Showing how Cliffs once Skirted the Entire East Side and Formed a Defense for the Pueblo

THE EXCAVATIONS AT PECOS

by A. V. Kidder

At the conclusion of each field-season, there has been printed in El Palacio a summary of the work done at Pecos during that year by the Department of Archaeology of Phillips Academy. The present report will presumably be the last of the series, for in September the excavations were brought to a close. I wish, therefore, to render a final account of the work and at the same time to convey to the Director and the Regents of the State Museum the deep gratitude felt by the Trustees of Phillips Academy and by the members of their Department of Archaeology for the privilege of studying so interesting and instructive a site.

The ruined pueblo of Pecos is situated on a rocky knoll toward the western side of the Pecos Valley, some twenty-eight miles by road southeast of Santa Fé. The valley was fertile and well-watered; the nearby mountains supplied abundant game; the range of the buffalo herds lay only a few days journey to the east, and the trade carried on by the Pecos in buffalo hides and dried meat was doubtless an important economic asset. These conditions were, of course, conductive to prosperity, and at the time of Coronado's entry in 1540 Pecos was the largest and strongest pueblo in the Southwest. When

New Mexico was colonized at the end of the 16th century, Pecos became the seat of a mission; the great adobe church was erected soon after; and until about 1750 the town continued to prosper. During the second half of the 18th century, however, epidemic disease and raids by the Comanche seriously weakened the tribe. Families and even larger groups began to slip away to settle at Cochiti, Santo Domingo and elsewhere. The drain on the population, coupled with continued sickness and troubles with both the Comanche and the Spanish, brought about in 1838 the final abandonment of Pecos. Since that the massive church and the great communal living-houses have gradually been falling into ruin.

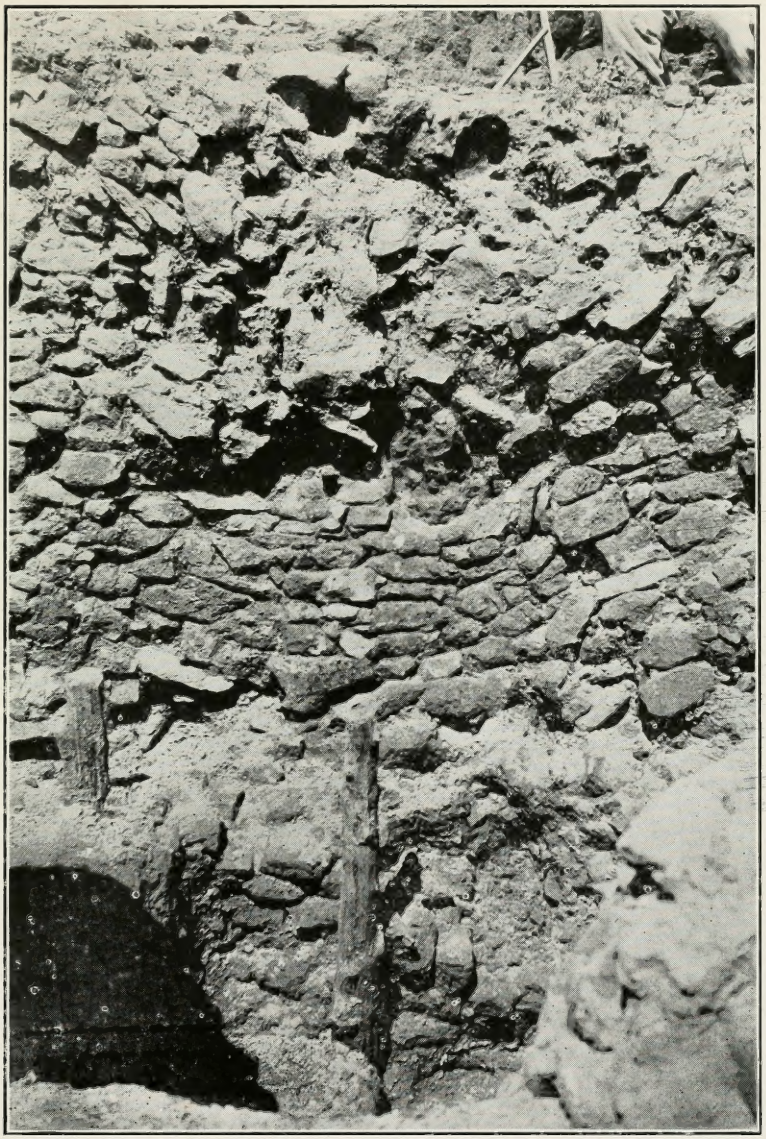
The excavations by Phillips Academy began in 1915. That entire season and the bulk of the second season were devoted to trenching in the great eastern rubbish-heap. The pueblo was built on the top of what was originally a steep-edged mesa, whose eastern side rose sheer, ten to twenty feet from the plain. This little cliff was, of course, one of the reasons why the mesa was picked for a village site, because it offered a sure protection on the east from attack of any sort. The cliff was also a most handy place for the village dump, and for centuries, ashes, animal-bones, broken pottery, discarded implements, and all the miscellaneous refuse of housecleaning went over the cliff to form what is without doubt the greatest rubbish-heap in the southwest. It is nearly a quarter of a mile long, a hun-

dred to a hundred and fifty feet wide, and in places reaches a depth of over twenty feet. The oldest material is naturally found at the bottom, the next oldest lies above, and so on to the suface.

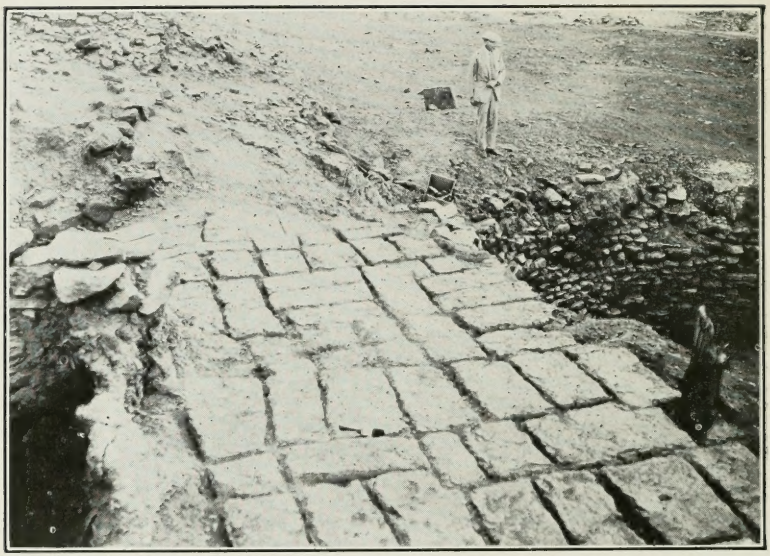
The rubbish contains literally millions of fragments of broken pottery, and the first two seasons were spent in collecting samples of these sherds from all parts of the heap, and from all levels. The latter work was done by isolating columns of debris, and then digging them down foot by foot. The fragments from each level were kept separate, labeled, and sent to the Museum for study. The examination of these stratigraphic collections of sherds showed that there had been a steady development in pottery technique from the founding of Pecos down to the period of abandoment; it was possible to recognize some twenty types, divisible into eight or nine chronological groups. The earliest group comprises the black-on-white wares so characteristic of all the older Southwestern pueblos and cliff-houses; then came in the employment of glaze-paint for decoration, a process which ran through six well-defined stages, called, in the system of nomenclature used at Pecos, Glaze I, II, III, IV, V and VI. During the latest period glaze was abandoned and dull paints came into service for decorating the vessels; this ware is called Modern because it originated about the beginning of the 18th century and also because it so closely resembles the pottery made today at certain of the modern pueblos.

The above recognition of the pottery-types and the determination of their sequence was naturally of the greatest assistance for all further work. Not only were we enabled to date relatively to each other the various ruins which we found when we came to excavate the mounds on the Mesa-top, but we could also tell from an examination of their mortuary pottery, the period to which the skeletons, that occurred in such numbers at Pecos, belonged. Furthermore, it became possible to assign to their proper position in the chronological scale, all ruins in the Rio Grande valley which contained one or more of the pottery types found at Pecos.

Skeletons, as was said above, were discovered in great quantities. Burials had been made in the refuse heap from the earliest times down to about 1600 when the Mission was founded, and a Christian graveyard was established by the padres. Quantities of interments were also found on the mesa top wherever sufficient earth or culture-deposit allowed the digging of graves. In all, some two thousand skeletons were discovered. Many of these, particularly the ones that lay toward the base of the heaviest mounds, were badly crushed and rotted, but many were in an excellent state of preservation, and a very large collection of skeletal material has been gathered and sent to the somatological laboratory at the Peabody Museum of Harvard University for measurement and study by Dr. E. T. Hooton. The examination of the bones has already brought



TYPICAL MASONRY IN THE QUADRANGLE NOTE THE WARPED AND BENT WALL



ADOBE PAVEMENT AT WESTERN EDGE OF PLAZA

out much of interest in regard to length of life, infant mortality, conditions of disease, the growth and decay of the teeth, and many other points.

In addition to the work in the refuse-heaps, part of the first season was devoted to the excavation and repair of the Mission. This was done by Mr. J. L. Nusbaum of the staff of the New Mexico State Museum. Mr. Nusbaum laid bare the deeply buried nave of the church, cleared away the mass of fallen adobes that covered the old altar steps and altar platform, and very ingeniously introduced concrete underpinnings below the massive walls of the transept and choir. As destruction of the adobe walls is almost invariably brought about by the undercutting of the bases by water, rather than by the washing effect of rain on their tops and sides, the firm foundations placed in 1915 will doubtless help preserve this remarkable example of New Mexico mission architecture for many years to come. Since the work was done no further deterioration has taken place.

During the second season excavations were begun on the mesa. The most obvious features of the top are two enormous mounds of building stones, from which protrude here and there fragments of walls and ends of timbers. One of these mounds forms a hollow rectangle and is obviously the ruin of the great quadrangular pueblo described by Castañeda in 1540, and referred to by all subsequent writers on Pecos. South of it is the second large

ruin, a long, narrow mound, extending from the quadrangle nearly to the Mission. When our work began we believed that the above two mounds comprised the whole of the Pecos ruin, and that the foundations of the walls protruding from them were set directly on bedrock. Excavation, however, soon showed that not only were there older ruins, two, and in places three, deep below the mounds, but that these older ruins also extended out from under the mounds and were masked by refuse from the later buildings. The mesa top proved, accordingly, not to be veneered, as we had supposed, with a light coat of more or less barren earth, but to be covered to a depth of from two or three to as much as ten or twelve feet with the remains of houses, with cemeteries and refuse deposits.

The conditions just described were encountered early in 1916, when we sank a test-pit in an open space to the north of the quadrangle, expecting to strike bedrock at six or eight inches. Instead of this we found that we were sinking into the ruins of an extensive pueblo of the earliest or Black-on-white period. The northern end of this building was excavated, but its southern end ran off underneath the principal mound where it could not be reached without pulling down and destroying the already insecure walls of the quadrangle.*

*See "The Old North Pueblo of Pecos" and "The Condition of the Main Pecos Ruin," Papers of the School of American Archaeology, No. 38.

The war put a stop to work at Pecos during 1917, 1918 and 1919, but in 1917 Dr. Guthe was able to spend a few weeks at an important Black-on-white period site near Rowe, N. M., about four miles south of Pecos. This investigation was of particular importance because the Rowe ruin was, relatively speaking, briefly occupied, was accordingly not overlaid by the remains of later structures, and its deposits held material of only a single culture-phase. Dr. Guthe cleared a number of rooms, found several graves, and recovered a representative collection of pottery and other artifacts.*

Full seasons were spent at Pecos in 1920, 1922, 1924 and 1925. In 1920 was made the first serious attempt to examine the north quadrangle. Trenches were opened simultaneously at the extreme east and west edges of the mesa top, and were driven toward each othtr to cross-cut the mound and meet in the plaza. The east trench was run through an old entrance to the pueblo in order to avoid the destruction of the walls of that quarter, and continued into the plaza until the outer wall of a completely buried and hitherto unsuspected kiva was encountered. The kiva was then excavated; it proved to have been in use from very early times down almost to 1800; it had a whole series of floors built one directly above the other, each one with the remains of

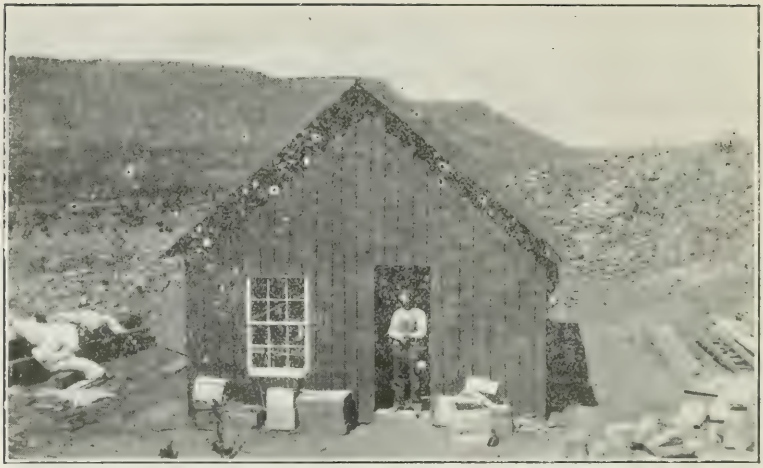
*See C. E. Guthe "The Pueblo Ruin at Rowe, N. M.," El Palacio, Vol. IV, No. 4, 1917.

a firepit and of holes for the insertion of loom-attachments. In the wall was found a sealed cubby-hole, hidden by many layers of plaster, in which there stood a small stone idol, surrounded by odd-shaped pebble-fetiches.

A few feet further west lay another kiva, the presence of which was also unsuspected. It was about twenty feet in diameter, and was filled with rubbish of the Black-on-white period, showing that it had been abandoned very soon after it was built. In the rubbish were many graves of Glaze I, II and III and near the surface was found the first of the many ceremonial caches that have made digging in the plaza so interesting. This one consisted of a large red olla and a thin sandstone slab elaborately painted in a geometric pattern. Before burial the stone had been broken into several pieces, which were carefully piled together and laid over the mouth of the olla.

The west trench met the eastern just beyond the second kiva. It had traversed the West Terrace, a wide flat area west of the quadrangle, where it had passed through the remains of a Glaze I pueblo, had encountered a deep cistern, and a score or more of middle period graves. The digging was comparatively easy until this trench reached the large mound made by the west side of the quadrangle. Here we got into the same difficulties that have attended every attack on the later buildings. The upper walls stand to a height of eight or ten feet; they

Walls of Three Periods



WORK SHACK AND LABORATORY

ADOBE WALL OF THE EARLY HISTORIC PERIOD

are of miserably laid masonry, and they are founded upon the broken and irregular tops of the walls of earlier houses.they in turn are often built upon still older walls. The result is that when one clears a room in the upper structure, by removing the supporting earth that now fills it, there is always imminent danger that its walls will collapse of their own weight; and to go below the floor to examine the older houses underneath is attended with such risk to the workmen that we have only attempted it in a few cases where the later masonry seemed unusually sound. Thus the only way safely to study the early pueblos is to remove the upper walls one by one as they are cleared. As this, of course, entails serious damage to the pueblo, we have only done it in one or two small areas where the importance of the finds to be expected below appeared to justify the sacrifice.

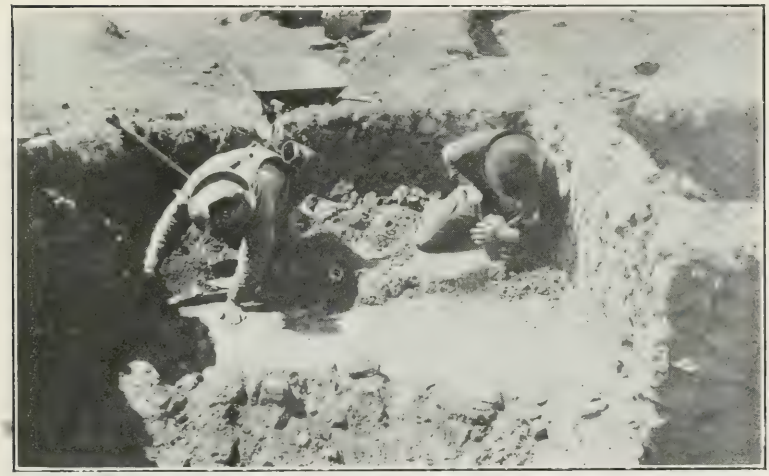
In our first encounter with the crumbling walls of the north quadrtngle we determined to cut directly through, removing such masonry as threatened to fall, and laying bare the underlying ruins. We found remains of great interest, including very early graves made in the cracks of the bedrock, and a large amount of ceremonial paraphernalia in a room which had evidently collapsed during occupancy.*

*For a fuller account of the work of 1920 see "El Palacio," Vol. No. 19.

The season of 1922 was again devoted principally to the quadrangle, where we examined the rooms lying north of our cross-cut trench This was done without destroying the walls, and by judicious propping we were able in most cases to get to the lower ruins and even to reach bedrock. All these rooms were refilled as soon as notes, maps and photographs had been made, for we had learned from the destruction that had taken place during the winters of 1920-1921 and 1921-1922 in the rooms left open after the 1920 season, that no Pecos wall over two or three feet high can, unsupported, stand the attacks of rain and frost, and the climbing about of the many tourists that are constantly visiting the place.

The work in the rooms gave us much information as to the structure and arrangement of this part of the pueblo. It was learned that it was three stories high, was terraced back from the plaza, and was cut up into transverse sections of six rooms a piece, each section or appartment containing three ground-floor rooms, two second-story rooms and one third story room. Balconies fronting the plaza on the second and third stories provided sheltered space for cooking, weaving, etc., the rooms apparently having served principally for storage and for sleeping quarters. The most interesting finds were made in the tier of ground-floor rooms fronting the plaza. These had no lateral doorways, but were entered through the roof by means of hatchways and lad-

CLEANING WALL ON NORTH TERRACE

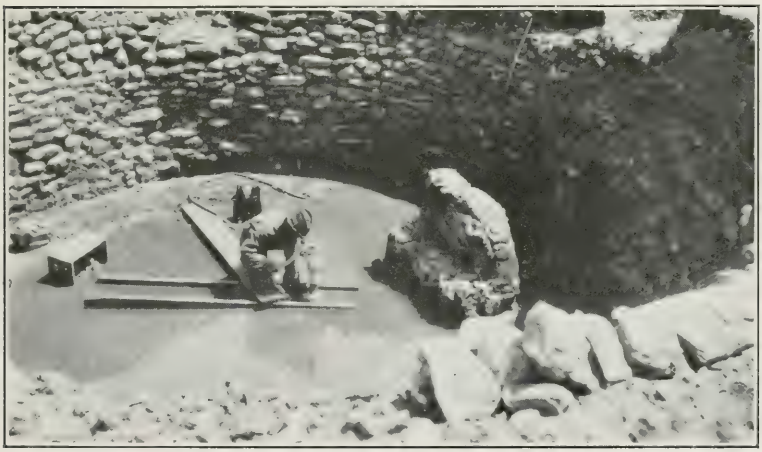


CLEARING A FLOOR IN A VERY ANCIENT ROOM

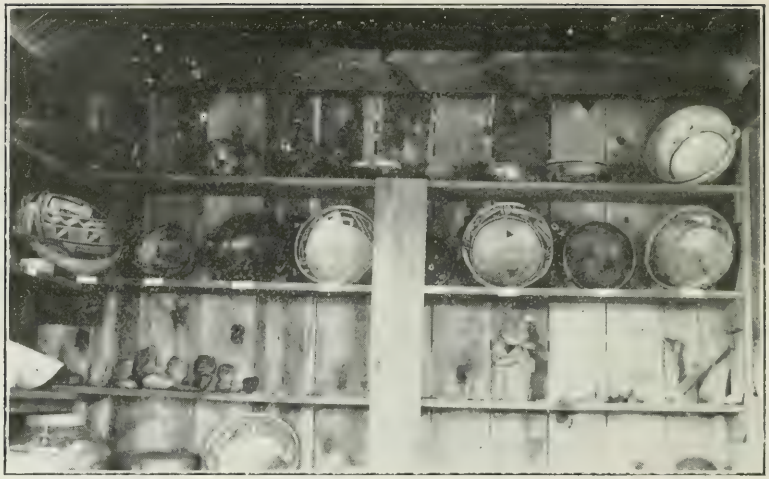
SCRAPER WORK IN GREAT EAST RUBBISH HEAP

CLEANING A SKELETON

SORTING POTTERY FRAGMENTS



PUMPING OUT A FLOODED KIVA AFTER A RAIN



SHELVES OF THE WORKROOM AFTER A GOOD DAY

FIREPIT AND ALTAR IN KIVA 14. THE FIRST EXAMPLE OF ANCIENT ALTAR YET DISCOVERED

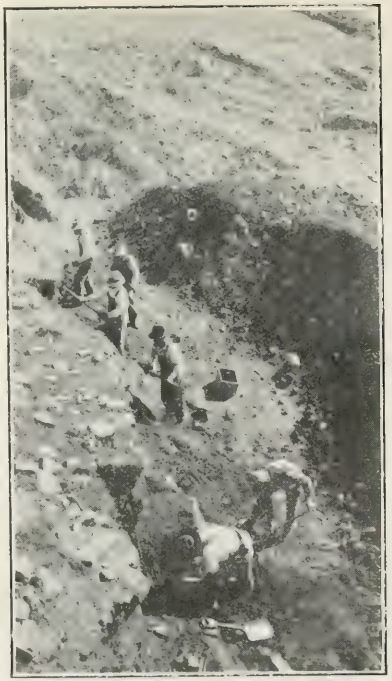
ders. They were at first used as storerooms, but they evidently proved too dark, too damp and too low-studded for comfort, and almost all of them were used as dumping places for refuse of all sorts. Being roofed over, their contents were protected from rain, so that we were able to recover from them many objects of a perishable nature which do not persist in the open rubbish-heaps. Such specimens as wooden digging sticks, arrows, gourd vessels, bits of textile, fragments of sandals, corn, beans, squash-seed, etc., were collected, many of them badly rotted, but almost all capable of being preserved for study by the use of paraffine or dilute ambroid.

Towards the close of the season a short trench was run out into the plaza, where there came to light a whole series of caches of ceremonial pots. The vessels were all small; many were of odd shapes or bore unusual decorations. Although some of them were of black-on-white ware, and therefore evidently were very old, they were often accompanied by pieces of much later styles, some even dating from the 17th or 18th centuries. Thus it is certain that the more ancient pieces must have been kept in use ceremonially during almost the entire history of the pueblo; this is also attested to by their worn and battered appearance. Near the caches of pots was discovered a large, thin, sandstone slab, similar in size and shape to the painted one recovered in 1920, and like it broken into several pieces and care-

fully buried. When the fragments were cleaned and fitted together, the slab proved to bear an elaborate painting in red, green, and yellow representing what is probably a kachina or rain god. This unique specimen, together with two battered stone idols that lay surrounded by fetiches in a cist nearby, is now in the State Museum at Santa Fé.

The field-season of 1923 was spent in exploring pueblo sites in western New Mexico and Arizona; the work at Pecos being resumed in June, 1924. The excavations of that year covered a larger area than usual, because they were confined to the West Terrace, where the deposits averaged only five or six feet deep, and the ruins of the early houses that practically covered the terrace were not overlaid by so great a mass of later structures as was the case in the quadrangle. The digging, however, was far from simple, for two or three different pueblos had been built on this ground, pueblos of the Black-on-white, Glaze I and Glaze II periods. These overlapped each other to a greater or less extent, all of them had been so stone-robbed for subsequent building activities that only the stubs of their walls remained. Furthermore, grave-shafts, under ground ovens, kivas and other prehistoric excavations, the purpose of which we were unable to determine, had mixed the deposits and destroyed the remaining masonry of the old pueblos to a most confusing extent. Much valuable information was, nevertheless, obtained, and it was possible to trace out and map

SKELETON AT LENGTH, A RARE POSITION



A TRENCH IN THE GREAT EAST RUBBISH HEAP

Just After a Find of Pottery in Kiva 12 Getting out Vessels and Sorting the Fragments

Typical Masonry of the Earliest Period This was the Best Building Work done at Pecos

a large series of rooms, plazas and kivas. A series of early skeletons was recovered in unusually fine condition, due to the fact that the bones had not been crushed as they often were in he eastern refuse-heap by a great overburden of earth.

During the past summer extensive excavations were carried on in the south end of the plaza, and in the passageway that gave access to it from the West Terrace. Sections were also cut through the east and south sides of the quadrangle, through the long South Building, and through two other old pueblos, hitherto untouched that were discovered south of the quadrangle. Each of these various undertakings was designed either to clear up some point raised during the work of former seasons or to prospect territory not previously investigated. The most interesting conditions were found in the plaza. Here we ran into deposits of surprising depth - over ten feet in places - and surprisingly full of skeletons. A kiva in the southwest corner was cleared. It contained an excellently preserved firescreen of adobes, beautifully plastered in light-green, the only perfect example so far uncovered at Pecos. It closely resembles the firescreens of certain of the still inhabited Rio Grande pueblos. In the ashes of the firepit lay a string of handsome shell beads, untouched by fire and evidently hidden, or ceremonially offered there at the time of the abandonment of the kiva.

A trench was opened just east of the kiva, which

ran to a depth of twelve feet before reaching the clay subsoil that covers this part of the mesa. It progressed very slowly, because of the great depth of the earth, but eventually walls were reached at both sides and the place proved to be a kiva no less than forty feet in diameter - the largest known in the Rio Grande with the exception of the one excavated in 1908 at the Rito de los Frijoles by the School of American Research. We were unable to clear this kiva completely, but we traced out its northern wall and uncovered around that sector the wide bench which apparently encircled the entire room. In the course of this digging there was found close under the surface a cist or box made of six large stone slabs. On raising the cover there appeared the head and shoulders of the finest stone idol that, as far as I know, has yet been collected in the Southwest. It is about twelve inches high. The representation is of a human figure squatting on its haunches with knees drawn up to the chest, and hands on the breast. The limbs and features are, in spite of the hardness of the stone, carved in high relief, and arms, ears and nose are perforated, apparently for the attachment of feathers. On the top of the head is a deep groove, designed presumably to hold a "tablita" or ceremonial dance headdress.

This idol had been broken into three pieces but it had been carefully put together again and—from the position in which it stood when found--had ap-

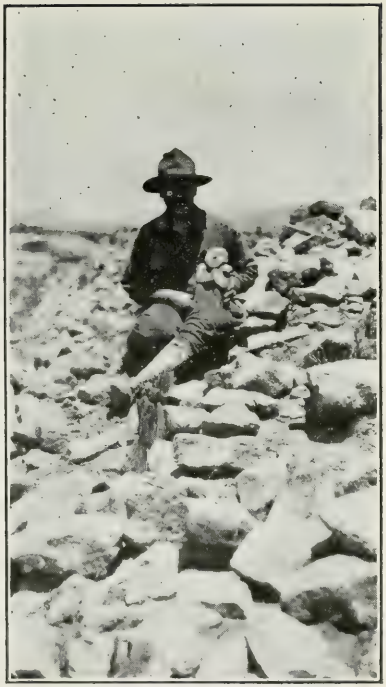
parently been mended by gluing before burial. It was accompanied by a smaller, cruder idol, badly battered about the head, by the usual collection of odd-shaped stone fetiches. I think it probable that these two idols, the other two broken ones found in 1922, and the pair of painted slabs mentioned above, had all been broken by, or at the order of, the padres in early missionary days, and that the pieces had been piously gathered together and deposited, where we found them, by the Indians.

The cross-cut trenches through the south house and the quadrangle revealed conditions closely similar to these encountered in previous years. In one of the rooms of the south house there came to light a large fragment of the great bell of the Mission, which was broken at the time of the Pueblo Revolt in 1680. This is the third piece of this bell that has been recovered, the other two having turned up in the refuse heap in 1915. In the east side of the quadrangle the most interesting finds consisted of two large pottery bowls closely similar to the ware made today at Santo Domingo. In an adjacent room was a cache of small ceremonial jars, one of which is of almost exactly the same shape as the patent modern self-filling drinking vessels used for chickens.

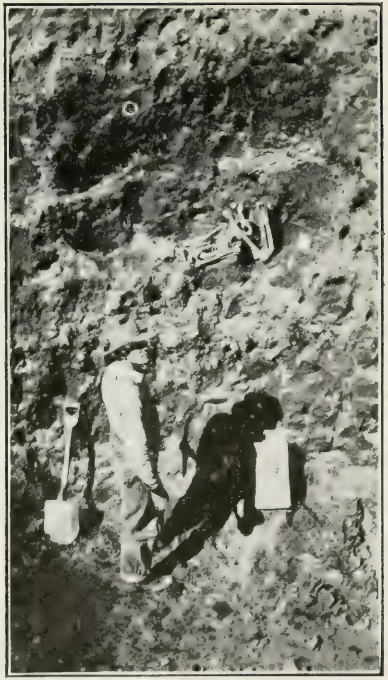
The last two weeks of the season were spent in filling up a number of excavations made during this and previous years. It was with great regret that I directed this to be done as it, of course, re-

sulted in the covering of a great number of most interesting rooms, kivas, and other structures. The filling was, however, absolutely necessary to protect the buildings until such time as funds are available properly to protect them from the ravages of the weather and the vandalism of tourists.

As was said at the beginning of this report, the past summer was the last season of excavation at Pecos by Phillips Academy. The ruin is so large that it would require more funds and more time than are available; and, furthermore, the site is of such great scientific importance, because of its peculiarly perfect stratification of remains, that it would be most unwise for any single investigator to exhaust it at the present time. No one man can solve or even comprehend all the complexities of a site, nor can he glean all the information there is to be had from any ruin. Future archaeologists, furthermore, will be possessed of a more perfect technique than ours and will be working, presumably, on problems not now even suspected. Many times, during the excavations at Pecos, I have felt extremely thankful that it had not been pulled to pieces in the days when fine specimens were the only quest of the archaeologist and conditions of deposition were ignored. Those days are happily long past, due in no small measure to the work of the School of American Research; but a time will surely come when our own methods will seem equally crude and it is most important that we should preserve for the



IDOL FOUND IN KIVA



SKELETON IN EAST RUBBISH HEAP

SCAFFOLD BUILT FOR PHOTOGRAPHING DURING EXCAVATIONS

HAULING COLLECTIONS TO THE RAILWAY

students of another and a wiser generation considerable portions of every notable site which we now excavate.

The collection from Pecos numbers about fifteen thousand specimens, exclusive of skeletal material and potsherds. Much of this, of course, consists of small objects from the rubbish, such as broken awls and punches of bone and antler, stone scrapers, rubbing stones, pot polishers, battered axes, arrowpoints, pieces of clay effigies and other specimens of little value for museum display. There are, on the other hand, very fine series of pottery vessels, a splendid lot of pipes, scores of beautifully made implements of all sorts, and a few things such as the painted slabs and the idols, which are of great rarity and value. All of this material, with the exception of certain unique specimens which were sent at once to Santa Fe, has been shipped to Andover for study. When it has been worked up, photographed and published, as large a collection as is desired will be returned to New Mexico to be housed in the State Museum. A second collection will be kept at Andover and the rest will probably be grouped into representative series and deposited in such institutions in the United States and abroad as can make the best use of them for teaching purposes and for display.

The publication of the results of the Pecos work was begun in 1924. Two numbers of the "South-

western Series" have appeared: "An Introduction to the Study of Southwestern Archaeology, with a Preliminary Account of the Excavations at Pecos" by the writer, and "Pueblo Pottery Making" by Dr. Carl E. Guthe. A third "The Pueblo of Jemez," by Dr. Elsie Clews Parsons, is in press. It is a study of the ethnology of the Jemez, the tribe most closely allied to Pecos linguistically, to join whom the surviving Pecos moved in 1838. Papers on the pottery of Pecos, on the artifacts and on the excavations are in preparation by the present writer; and a large monograph on the skeletal remains by Dr. Hooton of Harvard is almost completed.

I cannot close this report without expressing the hope that Pecos may some day be developed into the unique archaeological exhibit for which its scientifice importance and its ready accessibility so admirably fit it. Could funds be had to restore and refurnish a small section of the pueblo; to excavate and roof over, with its graves intact, a trench in the great rubbish heap; and to erect a museum for the display of specimens and models, Pecos situated as it is on one of the main transcontinental motor highways, would become, I feel sure, one of the most noteworthy points of interest in the entire Southwest.

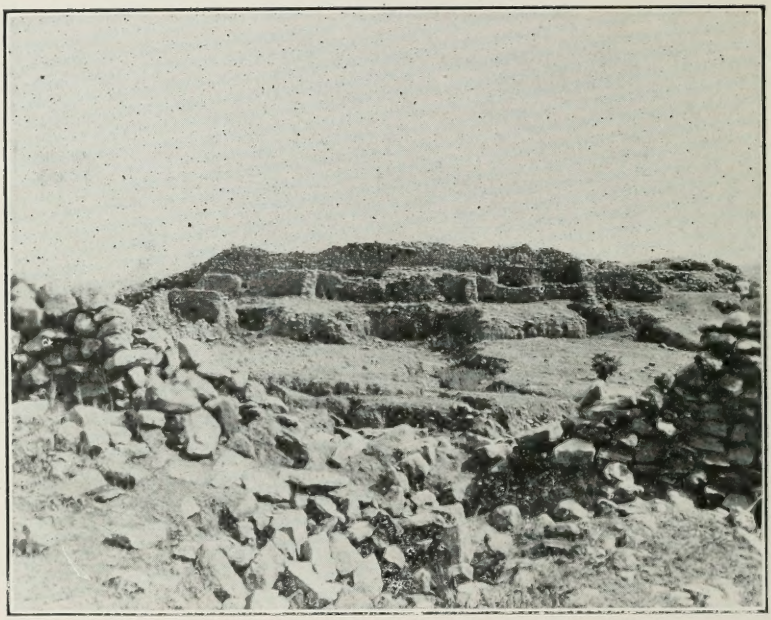
MUSEUM EVENTS

Annual Portrait Exhibit.

More than thirty portraits by painters of the Santa Fe and Taos groups were hung in the Gal leries of the Museum in response to an invitation to participate in an annual portrait exhibit. Portraiture has a wide appeal and demands of the artist qualities that prove his mettle. It sets limitations for his brush that he dare not transcend. There must be recognizable likeness without photographic exactness; there should be an interpretation of spiritual qualities of the sittter which the camera cannot apprehend. There are but restricted opportunities for composition and color. The outstanding portrait of the exhibit, was perhaps, that of a young artist, Clinton King, Fort Worth, Texas, whose portrait of a Santa Fe writer, had qualities of strength and directness that lifted it above the average. It had simplicity of treatment--and yet, there was no mistaking the personality and the person portrayed. There was no petty prettyness and minuteness of detail, but broad stroke with sparsity of paint. There was boldness, vividness and virility in posture, color contrasts and treatment. That artist and his subject were en rapport was apparent from the picture. It is evident that the Santa Fe colony has acquired in King an artist whose career should

be brilliant if it carries out its present promise. One of the loveliest portraits in the exhibit was by Will Shuster. It was that of a child, "Donny" and here again, was proof that the modern attitude and method if held somewhat in restraint, can produce results which even the general public will accept and praise without question. Raymond Johnson in "Wife of an Artist" has produced not only a striking portrait but also a brilliant decoration. In his self-portrait, Johnson reveals the master. Randall Davey's "Mary Christine" holds up well with time. Willard Nash in "Margaret Larkin" has produced an instructive bit of Cubism that is well worthy of closer study by the visitor. Carlos Vierra contributes eleven cartoons which indicate that he might be famous in that field had he concentrated his endeavors in it. Leon Gaspard's "Sheldon Parsons," of course, is one of the prized possessions of the Museum and such portraits as Cassidy's Rollins, Lotave's, which had been exhibited before, found new admirers. Dasburg's, Bakos', Van Soelen's contributions, were fine examples of their art, while the Indian portraits, ranging from those by Sharp to that of "Santiago" by Rolshoven, and including three by Datus Myers, one by Mrs. Ted Kohn, one by Catharine Critcher, were admirable in many ways. Two of the younger artists, Miss Caroline Pickard and Miss Caroline Ten Eyeck, exhibited portraits, of subjects wellknown in Santa Fe and received favorable comments.

DISCOVERY OF THE IDOL



NORTH WALL OF THE GREAT QUADRANGLE